

**ABSTRACT**

An improved ADSL modem is presented. The ADSL modem in cooperation with a remote ADSL modem will exchange manufacturer identification information during initial DSL system training to establish a DSL communication link. The improved ADSL  
5 modem may comprise a memory device containing system parameters and operational algorithms previously determined to maximize DSL link performance between ADSL modems manufactured by different vendors. The improved ADSL modem is well suited for central office applications as it provides a solution for optimizing system performance that is transparent to remotely located ADSL modems. An ADSL modem in accordance  
10 with the present invention may comprise a digital signal processor and a memory device configured to store appropriate system parameters and operational algorithms that provide an optimized DSL communication link once applied during system initialization. The present invention also provides a method for optimizing DSL system performance. The method can be described by the following steps: supplying a default manufacturer  
15 identification for a remote modem at a master modem; applying appropriate system parameters and algorithms in response to the default manufacturer identification; initializing DSL system start-up training; receiving the actual manufacturer identification for the remote modem; determining if the current system parameters and algorithms are suitable for a DSL link with the actual manufacturer; adjusting training parameters and  
20 algorithms; restarting training when required; and establishing the DSL link.